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Employment and Earnings, Public Sector, Australia methodology

Reference period 2020-21 financial year

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Introduction

This publication contains estimates of public sector employees and cash wages and salaries obtained from the annual Survey of Employment and Earnings (SEE).

Concepts, sources and methods

The conceptual framework used in SEE aligns closely with the standards and guidelines set out in Resolutions of the International Conference of Labour Statisticians. Descriptions of the underlying concepts and structure of Australia's employment and earnings statistics, and the sources and methods used in compiling these estimates, are presented in [Labour Statistics: Concepts, Sources and Methods \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6102.0.55.001\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6102.0.55.001).

Estimates of employee earnings presented in this publication are based on the Australian conceptual framework for measures of employee remuneration. For further details, see [Comparability of results. \(/methodologies/employment-and-earnings-public-sector-australia-methodology/2020-21#comparability-of-results\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6102.0.55.001)

The organisations that contribute to the statistics in this publication are classified:

- by institutional sector, in accordance with the Standard Institutional Sector Classification of Australia (SISCA), which is detailed in [Standard Economic Classifications of Australia \(SESCA\) \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1218.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1218.0);
- by industry, in accordance with the [Australian and New Zealand Standard Industrial Classification \(ANZSIC\), \(Revision 2.0\) \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0);
- by state and territory; and
- by level of government.

Reference period

Although earnings estimates relate to the full twelve months of the financial year, employment estimates relate to the last pay period ending in June of the given year. As a result, estimates of wages and salaries per person employed may be affected by any fluctuations in employment during the reference period. Given these differences, the ABS does not recommend using these components together to calculate average earnings.

Financial data incorporate all units in scope of the SEE that were in operation at any time during the financial year.

Scope and coverage

All Commonwealth, State/Territory and Local government units are represented in this survey except:

- ANZSIC class 6330 Superannuation funds;
- ANZSIC class 7552 Foreign government representation;

- ANZSIC 9559 Other interest group services n.e.c. with SICSA 5000 Non profit institution serving households; and
- ANZSIC subdivision 96 Private households employing staff and undifferentiated goods-and-service-producing activities of households for own use.

Also excluded are the following employees who are not regarded as employees for the purposes of this survey:

- members of the Australian permanent defence forces;
- employees of overseas embassies, consulates, etc.;
- employees based outside of Australia;
- employees on workers' compensation who are not paid through the payroll;
- directors and office holders of public sector organisations who are not paid a salary.

The sample for SEE, like most Australian Bureau of Statistics (ABS) business surveys, is selected from the ABS Business Register (ABSBR) which is primarily based on registrations to the Australian Taxation Office (ATO) Pay As You Go Withholding (PAYGW) scheme. The ABSBR is updated quarterly to take account of:

- new businesses;
- takeovers and mergers;
- changes in industry classification;
- changes in the number of employees;
- businesses which have ceased employing; and
- other general business changes.

The estimates include an allowance for the time it takes newly registered businesses to be added to the survey population.

Businesses which have ceased employing are identified when the ATO cancels their PAYGW registration. In addition, businesses which have not remitted under the PAYGW scheme for the previous five quarters are removed from the population.

Survey methodology and design

The SEE uses a sample survey methodology and collects information using web form questionnaires. Approximately 2,000 public sector employing units, selected from the ABS Business Register (ABSBR), are included in the survey.

The statistical unit for the survey comprises all the activities of a public sector employer in a particular state or territory based on the Australian Business Number (ABN) unit or Type of

Activity Unit. Each statistical unit is classified to an industry which reflects the predominant activity of the business. The statistical units are stratified by state, industry and employment size, and within each stratum, statistical units are selected with equal probability.

A sample redesign and small domain estimation methodology were implemented for the 2013-14 survey. Both changes improved State by Level of Government estimate. The small domain estimation methodology involves adjusting the estimation weights to ensure that benchmark totals in each State by Level of Government cell within a stratum are met. This calibration to benchmark totals draws strength from the relationship between the data items and the benchmark variable to improve the State by Level of Government estimates.

ABS economic units model

The Economic Units Model is used by the ABS to determine the structure of Australian businesses and other organisations. The model consists of:

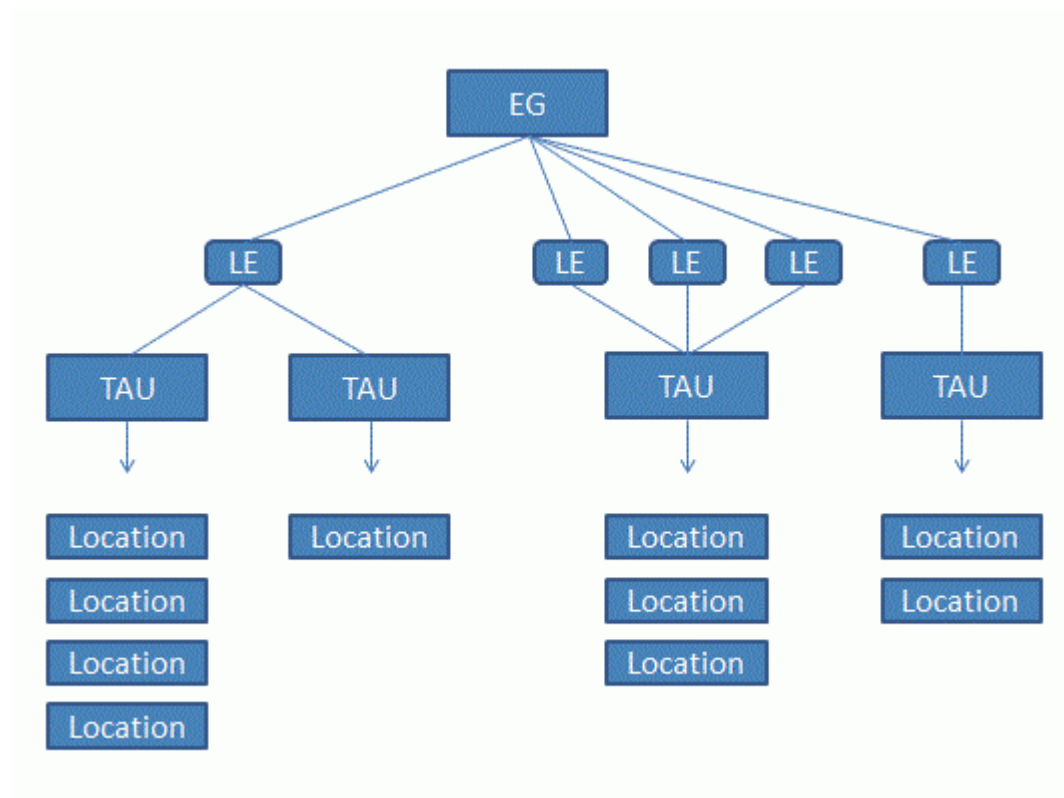
- The Enterprise Group (EG)
- Legal Entities (LEs)
- Type of Activity Units (TAUs)
- Location Units.

The EG and LE are institutional units and the TAU and Location are producing units.

The LE and the TAU are the main institutional and producing units used by the ABS to produce statistical outputs.

Diagram 1 illustrates the nature of the relationships between the different units within the model.

Diagram 1: ABS economic units model*



* The legal entity (LE) statistical unit is generally equivalent to a single ABN registration

Unit definitions

The Legal Entity (LE) is an institutional unit covering all the operations in Australia of an entity which possesses some or all of the rights and obligations of individual persons or corporations, or which behaves as such in respect of those matters of concern for economic statistics. Examples of legal entities include companies, partnerships, trusts, sole (business) proprietorships, government departments and statutory authorities. Legal entities are institutional units. In most cases the LE is equivalent to a single ABN registration.

The Enterprise Group (EG) is an institutional unit that covers all the operations within Australia's economic territory of legal entities under common control. Control is defined in Corporations legislation. Majority ownership is not required for control to be exercised.

The Type of Activity Unit (TAU) comprises one or more Legal Entities, sub-entities or branches of a Legal entity that can report productive and employment activities. TAUs are created if accounts sufficient to approximate Industry Value Added (IVA) are available at the ANZSIC subdivision level.

A Location is a producing unit comprised of a single, unbroken physical area from which an organisation is engaged in productive activity on a relatively permanent basis, or at which

the organisation is undertaking capital expenditure with the intention of commencing productive activity on a relatively permanent basis at some time in the future.

Classification of units

Various classifications are applied to the units in the ABS Economic Units Model. The main classifications applied are:

- ANZSIC
- Type of Legal Organisation (TOLO)
- Type of Business Entity (TOBE)
- Standard Institutional Sector Classification of Australia (SISCA)
- Public / Private classification.

ANZSIC is used to classify the industry in which the TAU has productive activity. Further information on this classification can be found in [Australian and New Zealand Standard Industrial Classification \(ANZSIC\) \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0).

SISCA provides a framework for dividing the Australian economy into institutional sectors. Further information on this classification can be found in [Standard Economic Sector Classifications of Australia \(SESCA\) \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1218.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1218.0).

ABS Business Register

The ABSBR is a list of businesses and organisations operating in Australia and is based on the Australian Business Register (ABR). Organisations are included on the ABR when they register for an Australian Business Number (ABN). The Commonwealth Government requires all government departments and agencies to make use of the ABR to reduce government imposed reporting load, and to use the ABN as the primary reference number for all dealings between government and business. The ABSBR is used to create frames for the various business surveys run by the ABS.

The results of these statistics are based, in part, on ABR data supplied by the Registrar to the ABS under A New Tax System (Australian Business Number) Act 1999 which requires that such data is only used for the purpose of carrying out functions of the ABS. No individual information collected under the Census and Statistics Act 1905 is provided back to the Registrar for administrative or regulatory purposes. Any discussions of data limitations or weaknesses is in the context of using the data for statistical purposes, and is not related to the ability of the data to support the ABR's core operational requirements. Legislative requirements to ensure privacy and secrecy of the data have been followed. Only people authorised under the Australian Bureau of Statistics Act 1975 have been allowed to view

data about any particular firm in conducting this survey. In accordance with the Census and Statistics Act 1905, results have been confidentialised to ensure that they are not likely to enable identification of a particular person or organisation.

It is not practicable for the ABS Economic Units Model to be applied to all ABR registrants and is organised into two parts: the profiled population, and the non-profiled population.

Profiled Population: Businesses and other organisations which are considered sufficiently complex and significant, are profiled according to the Economic Units Model. These enterprise groups typically have multiple legal entities, multiple TAUs and are among the largest contributors within industries.

Non-Profiled Population: Businesses and other organisations with less complex structures. They are regarded as an enterprise group with a single legal entity and a single TAU in accordance with the Economic Units Model. Information for units in the non-profiled population is largely sourced from the ABR.

The two populations are mutually exclusive and cover all organisations in Australia which have registered for an ABN.

Input into the Australian National Accounts

Estimates of employee remuneration for the public sector are one of the inputs into the gross domestic product component of the Australian National Accounts, specifically "compensation of employees" estimates. The private sector component of compensation of employees estimates is provided by the Quarterly Business Indicators Survey which is published in [Business Indicators, Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/5676.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/5676.0). For further details see [Australian System of National Accounts: Concepts, Sources and Methods \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/5216.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/5216.0).

Comparability of results

The SEE was not conducted as a stand-alone survey in respect of 2010-11 or 2015-16. The 2010-11 and 2015-16 estimates of public sector employment and cash wages and salaries were produced from the Major Labour Costs Survey. However, the conceptual framework used is the same and the estimates can be compared with other years.

Estimates of employee earnings in this publication have been produced in accordance with the Australian conceptual framework for measures of employee remuneration. For details of this framework refer to the Employee Remuneration chapter of [Labour Statistics: Concepts, Sources and Methods \(https://www.abs.gov.au/ausstats/abs@.nsf\)](https://www.abs.gov.au/ausstats/abs@.nsf)

[/mf/6102.0.55.001\).](#)

The measure of employee earnings presented for the annual series is 'cash wages and salaries', which is regular and irregular wages and salaries in cash, including amounts salary sacrificed.

Care should be taken when comparing data for the public sector over time. Estimates of public sector employment and earnings can change over time due to: changes in the sample design; privatisation of public financial and public trading enterprises; machinery of government changes; and other changes to statistical unit structures, including industry classification, resulting from periodic updating of the Profiled population (refer [ABS Business Register \(/methodologies/employment-and-earnings-public-sector-australia-methodology/2020-21#abs-business-register\)](#)).

Caution should be exercised when comparing estimates of numbers of employees from the SEE with those published monthly in [Labour Force, Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6202.0\)](#) as there are a number of differences between the two collections. The SEE is a business survey that collects information from a sample of employers about their employees, whereas the Labour Force Survey is a household survey that collects information from the occupants of selected dwellings. The two collections use different sample design and survey methodologies and there are differences in scope and coverage.

SEE covers public sector organisations, including Commonwealth and state/territory government organisations, local government authorities, public corporations, universities, government controlled non-profit institutions, government marketing boards, legislative courts, municipal authorities and other statutory authorities. For the purposes of SEE, allocating an organisation to a Level of Government is undertaken by determining the institutional unit (i.e. Commonwealth, state or local government) deemed to exercise control. As such, where scoping and classification differences exist, SEE results may differ from other published sources.

Rounding

Where figures have been rounded, discrepancies may occur between sums of the component items and totals.

Related publications

The following publications contain related information:

- [Australian Labour Market Statistics \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6105.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6105.0);
- [Average Weekly Earnings, Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6302.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6302.0) - issued biannually;
- [Employee Earnings and Hours, Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6306.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6306.0) - issued biennially;
- [Labour Costs, Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6348.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6348.0);
- [Labour Force, Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6202.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6202.0) - issued monthly;
- [Labour Statistics: Concepts, Sources and Methods \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6102.0.55.001\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6102.0.55.001); and
- [Wage Price Index, Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6345.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6345.0) - issued quarterly.

Technical note - sampling error

Reliability of estimates

As the estimates from the Survey of Employment and Earnings are based on information related to a sample of public sector employers rather than a full enumeration, they are subject to sampling variability. That is, they may differ from the estimates that would have been produced if the information had been obtained from all public sector employers. This difference, called sampling error, should not be confused with inaccuracy that may occur because of imperfections in reporting by respondents or in processing by the ABS. Such inaccuracy is referred to as non-sampling error and may occur in any enumeration whether it be a full count or a sample. Efforts have been made to reduce non-sampling error by careful design of questionnaires, detailed checking of returns and quality control of processing.

The sampling error associated with any estimate can be estimated from the sample results. One measure of sampling error is given by the standard error which indicates the degree to which an estimate may vary from the value that would have been obtained from a full enumeration (the 'value'). There are about two chances in three that a sample estimate differs from the true value by less than one standard error, and about nineteen chances in twenty that the difference will be less than two standard errors.

An example of the use of standard error on levels is as follows. If the estimated number of employees was 1,400,000 with a standard error of 3,000, then there would be about two chances in three that a full enumeration would have given a figure in the range 1,397,000 to 1,403,000 and about nineteen chances in twenty that it would be in the range 1,394,000 to 1,406,000.

Another measure of the sampling error (for level estimates only) is the relative standard error (RSE), which is obtained by expressing the standard error as a percentage of the estimate to which it refers. Level estimates with an RSE between 25% and 50% are subject to sampling variability generally considered to be too high for most practical purposes and should be used with caution. Level estimates with an RSE of 50% or more are considered to be too unreliable for general use. Level estimates with an RSE of more than 25% are annotated in this publication.

The following table shows the standard errors for published estimates for states and territories and level of government for 2019-20. Standard errors for other estimates are available on request.

Standard errors, public sector employees and cash wages and salaries

	Employees				Cash wages and salaries 2020-21			
	C'wealth	State	Local	Total	C'wealth	State	Local	Total
	'000	'000	'000	'000	\$m	\$m	\$m	\$m
NSW	0.9	0.4	0.8	1.5	113.3	65.8	71.4	176.1
Vic.	1.0	2.1	1.1	2.8	102.8	278.2	189.6	409.5
Qld	0.2	0.9	0.7	1.2	29.7	85.9	54.6	107.2
SA	0.3	0.3	0.2	0.5	32.4	28.7	14.7	49.6
WA	0.1	0.2	0.3	0.4	19.2	67.7	51.6	109.1
Tas.	0.1	-	-	0.1	7.6	8.6	3.4	12.4
NT	-	0.2	-	0.2	2.4	3.2	1.3	5.7
ACT(a)	0.7	0.2	..	0.7	69.0	24.9	..	73.3
Australia	1.7	2.3	1.6	3.7	190.5	314.3	214.4	496.4

- nil or rounded to zero (including null cells)

.. not applicable

(a) The ACT Local and State government estimates have been combined for confidentiality reasons. The result is displayed under the ACT State estimate and associated totals.

Glossary

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Cash wages and salaries

Remuneration for time worked or work done and for time not worked, such as annual and other types of paid leave. Comprises regular and irregular payments, including salary sacrificed amounts. Wages and salaries in cash are gross amounts, that is, before tax and other items (e.g. superannuation) are deducted.

Commonwealth government

All public sector units controlled by the Australian Government are classified to the Commonwealth Level of Government. This includes government units controlled by the Australian Government, public financial corporations controlled by the Australian Government and Public non-financial corporations controlled by the Australian Government. Those bodies run jointly by the Commonwealth government and State governments are classified to Commonwealth.

Employees

Wage and salary earners who received pay for any part of the last pay period ending on or before 30 June, including part-time and casual employees, employees on paid leave, and employees on workers' compensation who continue to be paid through the payroll.

Industry

Industry is classified according to the [Australian and New Zealand Standard Industrial Classification \(ANZSIC\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0) (<https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0>).

Local government

All public sector units controlled by a local government are classified to the Local Level of Government. Local government units are usually known as councils and are constituted through Local Government legislation. They are established to govern articulated regions within the state or territory known variously as districts, municipalities, shires, or areas. The power to create or vary these regions usually lies with the Governor General, State Governor or a Commonwealth Minister.

State government

All public sector units controlled by state/territory governments are classified to the State Level of Government. This includes government units controlled by a state/territory government, public financial corporations controlled by a state/territory government and public non-financial corporations controlled by a state/territory.

Quality declaration - summary

Institutional environment

For information on the institutional environment of the Australian Bureau of Statistics (ABS), including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see [ABS Institutional Environment](https://www.abs.gov.au/websitedbs/d3310114.nsf/4a256353001af3ed4b2562bb00121564) (<https://www.abs.gov.au/websitedbs/d3310114.nsf/4a256353001af3ed4b2562bb00121564>

Relevance

Statistics on public sector employees and cash wages and salaries presented in this publication are obtained from the annual Survey of Employment and Earnings (SEE). The SEE is an Australia-wide survey covering a sample of federal, state and local government agencies. Estimates of employee earnings for the public sector are a key input to the gross domestic product component of the Australian National Accounts, specifically compensation of employees estimates. Data are also used by federal and state departments and other analysts to monitor employment and earnings trends in the public sector and to assist in developing and reviewing earnings and labour market policies.

Estimates are available by state/territory, level of government, institutional sector and industry.

Timeliness

The reference period for the SEE is the year ending 30 June. Employment is reported from providers' payroll records, for the last pay period ending on or before 30 June. Employees remuneration data are reported on a cash basis from payroll records for payments made during the financial year.

Survey estimates are released approximately five months after the reference period.

Accuracy

Information for the SEE is collected via web form questionnaires which are distributed to approximately 2,000 public sector employing units. The population of employers is stratified by state, industry division and employment size to ensure adequate state and industry representation. The target minimum response rate is 95% for the survey as a whole and for each state and industry.

There are two principal sources of error in surveys: sampling error and non-sampling error. Non-sampling error arises from inaccuracies in collecting, recording and processing the data. Every effort is made to minimise non-sampling error by the careful design and testing of questionnaires, detailed checking of the reported data and direct follow up with providers where significant errors are detected.

Sampling error occurs when a sample or subset of the population is surveyed rather than

the entire population. One measure of the likely difference resulting from not including all of the population in the survey is given by the standard error. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if the whole population had been included in the survey.

Coherence

The annual SEE series, based on information obtained from a sample survey of public sector employers on the ABS Business Register, was introduced for the 2007-08 financial year. Prior to 2007-08 the survey was undertaken on a quarterly basis. Data for the private sector were collected in the quarterly SEE up to March quarter 2002.

The conceptual basis of employee earnings statistics, produced from the annual SEE and presented in this publication, is based on the Australian conceptual framework for measures of employee remuneration, as described in [Information Paper: Changes to ABS Measures of Employee Remuneration \(https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/6313.0Main+Features12006?OpenDocument\)](https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/6313.0Main+Features12006?OpenDocument).

The measure of employee earnings presented for the annual series is 'cash wages and salaries', which is regular and irregular wages and salaries in cash, including amounts salary sacrificed.

The SEE uses Australian standard classifications to facilitate data comparability across statistical series. Industry data for 2007-08 onwards are classified according to the [Australian and New Zealand Standard Industrial Classification \(ANZSIC\) \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0).

Data collection methodology has been improved over time, including estimation and sample design. Estimates of public sector employment and earnings can be affected by the following factors over time:

- privatisation of public financial and public trading enterprises
- machinery of government changes
- other changes to statistical unit structures

Care should therefore be taken when comparing data for the public sector over time.

The ABS publishes other information about employee earnings. These include [Average Weekly Earnings, Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6302.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6302.0), [Employee Earnings and Hours, Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6306.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6306.0), [Wage Price Index, Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6306.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6306.0).

[/mf/6345.0](#)), and [Labour Costs, Australia \(https://www.abs.gov.au/statistics/economy/finance/labour-costs-australia/latest-release\)](https://www.abs.gov.au/statistics/economy/finance/labour-costs-australia/latest-release). It is important to note that these surveys have different purposes and there are differences in the concepts, scope, sample selection and estimation methodologies used. For further information on these other sources, please refer to the feature article [Understanding Earnings in Australia Using ABS Statistics](#) published in [Employee Earnings, Benefits and Trade Union Membership, Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6310.0\)](#).

Interpretability

Employment and Earnings, Public Sector, Australia contains Explanatory Notes, a Glossary and a Technical Note which provide further information about data sources, terminology and other technical aspects of the series.

Accessibility

Employment and Earnings, Public Sector, Australia is available electronically from the ABS website and includes a downloadable Excel data file for time series data.

For inquiries about these and related statistics, contact the Customer Assistance Service via the ABS website [Contact Us \(/about/contact-us\)](#) page. The ABS [Privacy Policy \(/about/legislation-and-policy/privacy/privacy-abs#from-banner=GB\)](#) outlines how the ABS will handle any personal information that you provide to us.

Abbreviations

[Show all](#)

'000	thousand
\$m	million dollars
ABN	Australian Business Number
ABR	Australian Business Register
ABS	Australian Bureau of Statistics
ABSBR	Australian Bureau of Statistics Business Register
ANZSIC	Australian and New Zealand Standard Industrial Classification
EG	Enterprise Group
LE	Legal Entity
SEE	Survey of Employment and Earnings
SISCA	Standard Institutional Sector Classification of Australia
TAU	Type of Activity Unit
TOBE	Type Of Business Entity
TOLO	Type of Legal Organisation